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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,483	05/31/2001	Guillaume Comeau	1042 US	1527
7590 01/05/2005			EXAMINER	
ZUCOTTO WIRELESS			PHAN, MAN U	
16644 WEST BERNARDO DRIVE			ART UNIT	
SUITE 301			PAPER NUMBER	
SAN DIEGO, CA 92127			2665	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,483

Applicant(s)

COMEAU, GUILLAUME

Examiner

Man Phan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/22/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The application of Comeau for a "Wireless java device" filed 05/31/2001 has been examined. This application claims benefit from Provisional Application 60208967 filed 06/02/2000. Claims 1-47 are pending in the application.

Specification

2. The specification is objected to as failing to comply with 37 CFR 1.74 because it fails to include reference numbers and detailed description of the invention shown for Fig. 3c. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP ' 608.02(d). Correction is required.

Drawings

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the detailed description:

Reference sign (362) as described for Fig. 3a, page 7, line 23.

Reference sign (373) as described for Fig. 3a, page 9, line 28.

Reference sign (488) as described for Fig. 4, page 11, line 13.

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A proposed drawing correction or corrected drawings or amendment to the specification to add the reference sign(s) in the detailed description are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 14-23, 26-32, 37-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (US#5,444,853) in view of Dent (US#6,418,310).

With respect to claims 21-23, 37-38 and 41-43, Lentz (US#5,444,853) disclose a novel system and method for queuing, control and transfer of data between a host processor and a peripheral processor, according to the essential features of the claims. Lentz discloses in Fig. 4 a communication apparatus comprising a peripheral 401 that receiving data 418; a memory 102 defined by an address space 440, 442, 444...and data transfer portion for transferring the data directly from the peripheral (Col. 3, line 38- Col. 4, line 20 and Col. 6, lines 43 plus and Col. 16, lines 25 plus).

However, Lentz does not disclose expressly the location comprising a data structure, and object utilizing java. As well known in the art, JVM is the name of a virtual computer component that actually executes Java programs. Java programs are not run directly by the central processor but instead by the JVM, which is itself a piece of software running on the processor. The JVM allows Java programs to be executed on a variety of platforms as opposed to only a single native platform. Java programs are compiled for the JVM. In this manner, Java is able to support applications for many types of data processing systems, which may contain a variety of central processing units and operating systems architectures. A Java virtual machine JVM understands the structure of a Java object. In object-oriented programming languages such as Java, objects may be defined as structures that are instances of a particular class definition or subclass object definition. Objects may include instances of the class's methods or procedures (code) and/or data related to the object. An object is what actually "runs" in an object-oriented program in the computer.

In the same field of endeavor, Dent discloses in Fig. 3 a block diagram illustrated a wireless communication device 100, in which a substantial part of the software control program for processor 117 is written in JAVA source code and stored as JAVA bytecodes 300 in ROM 117a instead of being compiled to and stored in the form of native machine code. A JAVA Virtual Machine 301 written in or compiled to native machine code is also stored in ROM 117a and is used to interpret the JAVA bytecodes 300 in order to control radio circuits 108. For example, the JAVA Virtual Machine 301 may process received FACCH or SACCH messages, construct such messages for transmission, implement Mobility Management, Authentication and Access control, Handover or indeed any Layer-3 function defined in the

air-interface standard. The JAVA Virtual Machine 301 should be adapted specifically to the form of Man-machine interface 109 available on the phone of Fig. 3. The application software establishes a functional relationship between the interface device and the application end-device. The interface preferably comprises a JAVA Application Programming Interface (JAVA API) that is capable of enabling the application software toward the application end-device (Col. 5, lines 63 plus, and Col. 7, lines 4 plus). It's noted that to enable a Java application to execute on different types of data processing systems, a Java compiler typically generates an architecture-neutral file format, i.e., the Java compiler generates bytecode instructions that are nonspecific to a particular computer architecture and are executed by a Java interpreter, which is part of the JVM that alternately decodes and interprets a bytecode or bytecodes. These bytecode instructions are designed to be easy to interpret on any computer and easily translated on-the-fly into native machine code.

Regarding claims 26-32, 39-40 and 44-47, Lentz further teaches a direct memory access (DMA) controller, coupled to the hardware FIFO and the host processor, which controls the data transfer from at least one virtual FIFO data structure to the peripheral processor (Col. 16, lines 37-41). Furthermore, Dent teaches the wireless communications device includes a transmitter and a receiver for communicating data via a wireless network control station via radiowaves, a man-machine interface (MMI) for displaying information to the human user and providing interaction with the human user, and a control processor for controlling interaction between the MMI, the operation of the transmitter, the operation of the receiver, and the wireless network station. The control processor is controlled by a stored control program comprising ROM-stored JAVA bytecodes that are interpretively executed by a

ROM-stored JAVA interpreter. The JAVA interpreter may optionally be used when required to interpret RAM-stored JAVA bytecodes that are received from the network station, for example embedded within a hypertext document conveyed over the Internet (Col.2, lines 39 plus). The JAVA language has been promoted by SUN Microsystems as a platform-independent language. The platform-independence of the JAVA language is provided by it being an interpreted language, that is, JAVA does not compile to produce native machine code for any particular processor, but to produce JAVA bytecodes. JAVA bytecodes are a compressed representation of the original, human-readable source code. The JAVA bytecodes are standardized according to a public specification such as that given in Chapter 6 of "The JAVA Virtual Machine Specification--Second Edition" by Tim Lindholm and Frank Yeddin and can be interpreted by any processor that is equipped with a JAVA interpreter. The combination of the JAVA interpreter and the processor is known as a JAVA Virtual Machine (JVM). The advantage of an interpreted language such as JAVA is that the compiled program consisting of JAVA bytecodes theoretically does not need to be recompiled to run on a different processor, as all JVMs theoretically behave equivalently if they correctly implement the JAVA standard.

Regarding claims 1-20, they are method claims corresponding to the apparatus claims 21-23, 26-32, and 37-47 above. Therefore, claims 1-20 are analyzed and rejected as previously discussed with respect to claims 21-23, 26-32, and 37-47.

One skilled in the art would have recognized the need for effectively and efficiently transferring data between a peripheral and data structure stored in a memory through the use of java language, and would have applied Dent's novel use of ROM stored control program

written in the java language into Lentz's control and transfer of data between a host processor and a peripheral processor. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Dent's wireless subscriber terminal using java control code into Lentz's system and method for transferring data between a plurality of virtual FIFO's and a peripheral via a hardware FIFO and selectively updateg control information associated with the virtual FIFO's with the motivation being to provide a wireless java device.

6. Claims 9-13 and 24-25, 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lentz (US#5,444,853) in view of Dent (US#6,418,310) as applied to the claims above, and further in view of Ito et al. (US#6,233,520).

With respect to claims 24, 25, 33-36, Lentz and Dent disclose the claimed limitations as discussed in the paragraph 5 above. However, the claims further require the use byte array object in mapping data structure to the location. In the same field of endeavor, Ito et al. (US#6,233,520) discloses a map data access method and device capable of reading out from a recording medium the map data requested by a navigation system and providing them to the system whether C language, etc. or JAVA (trademark), etc. is employed to constitute a processing program on the navigation system side. In the recording medium, the map data and a reading method of the data are recorded in pairs in a map data section and a method section, respectively. When a navigation function section requests the map data, a data access section reads out desired data in a method (program) read out from the method section according to a requested application programming interface (API). The data read out are supplied as a byte

array object to the navigation function section (Col. 2, lines 51 plus and Col. 17, lines 5 plus). It's noted that the wireless communications associated with the peripheral devices includes a host-side wireless interface that supports a wireless networking standard such as the IEEE 1451 and/or 80211, which are wireless standards for wireless sensing, or protocol other than the well-known Bluetooth-type signals and/or any other desired protocol or other wireless standards such as cellular (TDMA, GSM, CDMA, 3G), HomeRF, IEEE 802.11 (Wi-Fi) and others.

Regarding claims 9-13, they are method claims corresponding to the apparatus claims 24-25, 33-36 above. Therefore, claims 9-13 are analyzed and rejected as previously discussed with respect to claims 24-25, 33-36.

One skilled in the art would have recognized the need for effectively and efficiently transferring data between a peripheral and data structure stored in a memory through the use of java language, and would have applied Ito's mapping data utilizing a byte array object and Dent's novel use of ROM stored control program written in the java language into Lentz's control and transfer of data between a host processor and a peripheral processor. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Ito's map data access method for navigation and navigation system, and Dent's wireless subscriber terminal using java control code into Lentz's system and method for transferring data between a plurality of virtual FIFO's and a peripheral via a hardware FIFO and selectively updateg control information associated with the virtual FIFO's with the motivation being to provide a wireless java device.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Atkinson et al. (US2002/0012329) is cited to show the communications apparatus interface and method for discover of remote devices..

The Sears et al. (US2002/0069263) is cited to show the wireless java technology.

The Judge et al. (US#6,430,564) is cited to show the java data manager for embedded device

The Tominaga et al. (US#6,539,433) is cited to show the system for distributing native program converted from java bytecode to a specified home appliance.

The Shaylor (US2002/0108025) is cited to show the memory management unit for java environment computers.

The Platko et al. (US#6,363,444) is cited to show the slave processor to slave memory data transfer with master processor writing address to slave memory and providing control input to slave processor and slave memory.

The Schmidt (US#6,782,465) is cited to show the linked list DMA descriptor architecture.

The Rosenthal et al. (US#5,758,182) is cited to show the DMA controller translates virtual I/O device address received directly from application program command to physical I/O device address of I/O device on device bus.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149.

The examiner can normally be reached on Mon - Fri from 6:00 to 3:00 EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

9. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

Or: (703) 305-3988 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Mphan

12/29/2004.


MAN U. PHAN
PRIMARY EXAMINER